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EXAMINER YANG, JIE				
ART UNIT 1793		PAPER NUMBER		
NOTIFICATION DATE 06/09/2010		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/511,290

Applicant(s)

LEIMALA, RAIMO

Examiner

JIE YANG

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 8-13 and 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-13 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim 15 has been amended; claims 6-7 and 14 are cancelled, and claims 1-5, 8-13, and 15 are pending in application. Claims 1 and 14 are independent claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5, 8-12, and 15 are rejected under 35 U.S.C. 103(a) as being obvious over Hyvarinen et al (US 6,007,600, thereafter US'600) in view of Cupertino et al (US Re 36,118, thereafter US'118).

US'600 in view of US'118 is applied to claims 1, 5, 8-12, and 15 for the same reason as stated in the previous office action marked 1/25/2010.

Regarding the amended claim 15, it includes the limitations of claim 1 and limitation of a monovalent copper content of 30-100g/l of the original claim 15. Refer to the rejection for claims 1 and claim 15 in the previous office action marked 1/25/2010, the instant claim 15 has rendered obviousness over US'600 in view of US'118.

Claims 2-4 and 13 are rejected under 35 U.S.C. 103(a) as being obvious over US'600 in view of US'118, and further in view of Partridge (US 6,165,367, thereafter US'367).

US'600 in view of US'118 and further in view of US'367 is applied to claims 2-4 and 13 for the same reason as stated in the previous office action marked 1/25/2010.

Response to Arguments

Applicant's arguments filed 4/22/2010 have been fully considered but they are not persuasive.

Regarding the Applicant's arguments filed on 4/22/2010 with respect to claims 1-5, 8-13, and 15, the applicant argues:

1), Reshuffling the references and restating the rejection with the references in a different order does not change these combined teaching. This is particularly true with regard to claims 10-12.

2), As Applicant has previous explained, the precipitation described at column 4, lines 3-19 of US'600 is the precipitation of monovalent copper, not of impurities from the monovalent copper containing stream. The office action has failed to adequately address Applicant's argument that the combined teaching of US'600 and US'118 do not result in Applicant's claimed invention. Applicant requires that in the event that the Office persists in making these rejections, the Office make the next action non-final,

since this will be first time that Applicant has had the benefit of the Office position with respect to Applicant's argument.

3), The Office fails to explain how it knows that these unidentified impurities (US'600) are of a type that is suitable for removing by ion exchange resin of US'118; the Office has not explained why, if the impurities have already been removed by precipitation , it would have been necessary or even desirable to treat the resulting stream with ion exchange resin of US'118; the Office does not explain where in either of the references it is taught or suggested that the use of organic complexes of US'118 is a suitable replacement for the precipitation techniques already disclosed as suitable by US'600; the office has yet to explain what possible relevance the teachings of Example 4 of US'118 with the completely different separation technique (i.e. a chelating ion exchange resin) as recited in the claim 15.

4), Regarding the rejection for claims 2-4 and 13 under 35 U.S.C. 103(a) as being obvious over US'600 in view of US'118, and further in view of US'367, the Office has failed to establish a prima facie case of obviousness and changing the ordering of the references in the statement of rejection does not change their lack of disclosure. Refer to the arguments in the remarks filed on 10/1/2009 on page 11-14: a) recorded references does not teach removing metal impurities from an aqueous strong chloride solution of monovalent copper using an chelating ion exchange resin; b) Nowhere does US'367 disclose or suggest that a strong chloride solution of monovalent copper could be purified of metal contaminations by passing the solution over a chelating ion

exchange resin without absorption of monovalent copper; c) regarding claim 13, there is nothing in US'367 to suggest that copper would not be reduced to sub-ppm level.

In response,

Regarding the arguments 1) and 4), the Examiner disagrees with the Applicant's argument because the rejections for claims 1, 5, 8-12, and 15 under 35 U.S.C. 103(a) as being obvious over Hyvarinen et al (US 6,007,600, thereafter US'600) in view of Cupertino et al (US Re 36,118, thereafter US'118) marked 1/25/2010 is changed from the rejections of Claims 1, 5, 8-9, and 14-15 under 35 U.S.C. 102(b) as anticipated by Cupertino et al (US Re 36,118, thereafter US'118) marked 7/10/2009. In the rejection for claims 10-12 in the office action marked 1/25/2010, US'600 is applied as a primary reference, which is different from the office action marked 7/10/2009,

Regarding the argument 2), the Examiner disagrees with the Applicant's argument because as pointed out in the previous office action marked 1/25/2010, US'600 teaches that impurities of the CuCl-NaCl solution are removed by using known reagents (Col.3, lines 59-63 of US'600). The whole paragraph for this teaching is: "Thereafter the solution 9 obtained from reduction, in which solution all copper now is present as monovalent, is conducted to solution purification 10, where impurities of the CuCl--NaCl solution are removed by using known reagents 11, and also by means of products obtained from the later stages of the process, i.e. granular copper 8 and sodium hydroxide 13 formed in the chlorine-alkali electrolysis 12. In the solution purification, metallic impurities are precipitated from the copper (I) chloride solution as precipitates 14 at pH values which are lower than the pH values of a solution

corresponding to the precipitation of Cu.sub.2 O." (Col.3, line 59-col.4, line 2 of US'600). In here, US'600 clearly teaches metallic impurities are precipitated from the copper (I) chloride solution as precipitates. The Applicant argued that no disclosure of any monovalent copper in US'118 to be precipitated out, the applicant's argument is against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In the instant case, US'600 in view of JP'118 is applied to claims 1, 5, 8-12, and 15; and US'600 in view of US'118, and further in view of US'367 is applied to claims 2-4 and 13. The detail discussions and motivations for combining these references can refer to office action marked 1/25/2010. The Examiner note that US'600 clearly teaches having monovalent copper before solution purification process (Fig.1-3 and Col.2, lines 44-58 of US'600).

Regarding the argument 3), using the proper reagents to remove the impurities obvious to one of ordinary skilled in the art, which is evidenced by US'600. US'600 teaches "...impurities of the CuCl--NaCl solution are removed by using known reagents 11..." (Col.3, line 59-col.4, line 2 of US'600). The known reagents include ion exchange resin because US'118 not only teaches applying a chelating ring resin to extract the metal from the aqueous solution in the form of a complex of the metal and the extractant (Col.1, lines 11-19, examples 5-6 of US'118, and claims 1-10), but also teaches the method is particularly effective for the recovery of metals include chromium, manganese, cobalt and copper (Col.4, lines 60-66 of US'118). US'118 also teaches an

acid strength of up to 0.5 molar above the stoichiometric requirement for stripping the metal the metal whereby said complex is decomposed and metal ions are transferred to the aqueous solution (Claim 1 of US'118, 0.5 molar copper is about 32g/l—noted by examiner), which is within the 30-100g/l monovalent copper content range as recited in the instant claim 15. The example applying chelating resin may refer to the example 5 of US'118.

Still regarding the argument 4), as pointed out in the previous office action marked 1/25/2010, US'367 is applied to claims 2-4 and 13 for evidencing that the organic complex is produced from an aqueous solution of metal salt with a chelating resin. US'367 clearly teaches a chelating resin containing aminophosphonic function groups are found selectively remove the heavy metals including uranium, zinc, nickel, cobalt, beryllium, lead, tungsten, vanadium, and molybdenum (Col.2, lines 3-21 of US'367). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply a chelating resin to remove above heavy metals in the process of US'600 in view of US'118. Furthermore, using a chelating resin for selective removal of impurities from copper solution is known in the art as taught in US'118 (Col.4, lines 29-36 of US'118). Therefore, there is no reason to expect the copper would be reduced to sub-ppm level by the chelating resin. Because the limitation of claim 13 removing one or more metal impurities to LME-A impurity level, it does not mean removing all the impurities. US'367 teaches "methods for selectively removing a heavy metal from an aqueous waste streams and more particularly to methods for reducing the heavy metal content in the waste steam to sub-ppm level." (Col.1, Line 5-9

of US'367), which meets requirement of the limitation of removing one or more metal impurities as recited in the instant claim 13.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jie Yang whose telephone number is 571-2701884. The examiner can normally be reached on IFP.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-2721244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JY

/ Roy King/
Supervisory Patent Examiner, Art Unit 1793